

Course Syllabi

1. EDUC-00025 RESEARCH METHODOLOGY TOOLS

2. Instructors:

- Maria Eulalia Vanegas Peña
- Tsai Garcia Perez

3. Bibliography

- Metodología de la investigación, Hernández Sampieri R., Fernández C., Baptista P., 2017
- Introducción a la metodología de la investigación científica., Gómez M., 2009
- Metodología de la Investigación, Muñoz C., 2015

4. Specific Course Information

- a. The subject covers the epistemological theme to explain how new knowledge is generated, focusing on the search and selection of available scientific evidence. It requires the student to read scientific-technical articles and the management of research resources such as: digital bases/repositories of bibliographic information, bibliographic management software among others. The subject provides basic elements to generate communications and academic-scientific reports, Finally, it addresses the basic elements of the main research designs in the field of Chemical Engineering. Research methodology tools constitute the first step in preparing the student to generate, at the end of his or her career, a work of degree according to the current requirements of the national higher education system, aligned with the needs of society, industry and science. During the semester he or she inculcates in the studying researchers' values such as objectivity, respect for evidence, respect for each other's point of view, honesty with results, analytical rigor and critical thinking Learning results are related to the mastery of theories, conceptual systems, methods and languages of integration of knowledge, oral and written communication, profession and research. (2.7)

5. Learning Objectives of the Course

- a. Explain the methods and procedures used for searching scientific/academic literature and writing scientific communications, encouraging students to develop elementary skills for the execution of rigorous research in the area of Chemical Engineering. In addition, effectively communicate research in oral and written form, using the appropriate technical language, either working individually or in interdisciplinary and/or multi-ethnic teams. - Describe the basic concepts of science, scientific paradigms, the scientific method and its processes, scientific research and types of research. - To know the appropriate procedures for the search and selection of academic and/or scientific literature through the management of databases and digital resources, as well as the identification of methodological characteristics of research designs. - To determine the basic notions for the writing of scientific-academic communications, em - Defining the appropriate procedures for the presentation of research papers in the field of chemical engineering

b. Learning Outcomes

1. It recognizes the appropriate procedures for the presentation of research work, in the area of chemical engineering.
2. Distinguish the foundations and current organization of science, in order to understand the basic concepts related to the methodology of research and the scientific method
3. It includes procedures for the search for academic and/or scientific literature and the selection of evidence from scientific information.

4. It identifies the basic rules for the drafting of scientific communications, avoiding plagiarism and employs correct application of apa standards
5. It identifies the basic rules for the drafting of scientific communications, avoiding plagiarism and employs correct application of apa standards
6. It recognizes the appropriate procedures for the presentation of research work, in the area of chemical engineering.
7. It includes procedures for the search for academic and/or scientific literature and the selection of evidence from scientific information.
8. It identifies the basic rules for the drafting of scientific communications, avoiding plagiarism and employs correct application of apa standards
9. It identifies the basic rules for the drafting of scientific communications, avoiding plagiarism and employs correct application of apa standards
10. Distinguish the foundations and current organization of science, in order to understand the basic concepts related to the methodology of research and the scientific method
11. It includes procedures for the search for academic and/or scientific literature and the selection of evidence from scientific information.
12. Distinguish the foundations and current organization of science, in order to understand the basic concepts related to the methodology of research and the scientific method

6. Course Topics

1. Introduction
2. Review of literature
3. The scientific method
4. Academic work
5. Presentation of research proposals